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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,478	02/15/2006	Achim Hilgers	DE 030298	2374

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EXAMINER

NGUYEN, HOANG V

ART UNIT	PAPER NUMBER
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2821

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/568,478	Applicant(s) HILGERS, ACHIM	
	Examiner Hoang V. Nguyen	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin et al (US 2003/0080905 A1).

Regarding claim 1, Lin (Figure 1, para. 0012) discloses an antenna module for the high-frequency and microwave range with an antenna 10 and an HF line 16 to connect the antenna to associated transmit and/or receive stages, in which at least parts or sections 13 of the HF line have a mismatch in the form of an impedance deviating from the impedance of the antenna.

Regarding claim 2, as applied to claim 1, Lin teaches that the HF line has an impedance that is about 10 to about 25% lower or higher than that of the antenna.

Regarding claim 3, as applied to claim 1, Figure 1 of Lin shows that the HF line which has a first and a second section which have different impedances and form an impedance transition or impedance jump which is about 10 to about 25% lower or higher than the self-impedance of the antenna.

Regarding claim 4, as applied to claim 1, Figure 1 of Lin shows that the antenna is a dielectric block antenna or a printed wire antenna which is mounted on a printed circuit board in which the HF line is produced in the form of at least one printed wiring structure deposited on the printed circuit board.

Regarding claim 5, as applied to claim 1, Figure 1 of Lin shows that the antenna is produced in the form of at least one resonant printed wiring structure and is deposited on a printed circuit board together with the HF line.

Regarding claim 6, Figure 1 of Lin shows a printed circuit board 20, more particularly for surface mounting electronic elements, comprising an antenna module as claimed in claim 1.

Regarding claim 7, Figure 4 of Lin shows that a mobile telecommunications device operable in the 2.4-GHz range, comprising an antenna module as claimed in claim 1.

3. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Pues (US 4,445,122).

Regarding claim 1, Pues (Figures 1-4, col 3 lines 3-27) discloses an antenna module for the high-frequency and microwave range with an antenna 2 and an HF line to connect the antenna to associated transmit and/or receive stages, in which at least parts or sections 4 of the HF line have a mismatch in the form of an impedance deviating from the impedance of the antenna.

Regarding claim 2, as applied to claim 1, Pues teaches that the HF line has an impedance that is about 10 to about 25% lower or higher than that of the antenna.

Regarding claim 3, as applied to claim 1, Figure 1 of Pues shows that the HF line which has a first and a second section which have different impedances and form an impedance transition or impedance jump which is about 10 to about 25% lower or higher than the self-impedance of the antenna.

Regarding claim 4, as applied to claim 1, Figure 1 of Pues shows that the antenna is a dielectric block antenna or a printed wire antenna which is mounted on a printed circuit board in

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which the HF line is produced in the form of at least one printed wiring structure deposited on the printed circuit board.

Regarding claim 5, as applied to claim 1, Figure 1 of Pues shows that the antenna is produced in the form of at least one resonant printed wiring structure and is deposited on a printed circuit board together with the HF line.

Regarding claim 6, Figure 3 of Pues shows a printed circuit board 11, more particularly for surface mounting electronic elements, comprising an antenna module as claimed in claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pues.

Pues discloses the claimed invention except mentioning that the operating range is at 2.4 GHz. It would have been obvious to one of ordinary skill in the art at the time the invention was made to dimension the antenna to operate at 2.4 GHz range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,480,171 B1 discloses an impedance matching means for a printed wiring board antenna.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang V. Nguyen whose telephone number is (571) 272-1825. The examiner can normally be reached on Mondays-Fridays from 8:00 a.m. to 4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hvn
4/19/07



**HOANG V. NGUYEN
PRIMARY EXAMINER**